The Influence of E-Customer Relationship Management, E-Service Quality, and Online Value Co Creation on Continuance Use Intention

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Abstract: The rapid development of digital technology has encouraged the banking sector to innovate in digital services. Wondr is an application launched as part of digital transformation. This application offers various advanced features and challenges in retaining users for continuous usage (continuance use intention). This study aims to analyze the influence of E-Customer Relationship Management (E-CRM), E-Service Quality (E-SERVQUAL), and Online Value Co-Creation on the Continuance Use Intention of Wondr users. This research employs a quantitative method with a Structural Equation Modeling - Partial Least Square (SEM-PLS) approach. Data was collected from 382 respondents who are Wondr users using a probability sampling technique. The results indicate that E-CRM and E-SERVQUAL have a positive and significant impact on Continuance Use Intention. Additionally, Online Value Co-Creation, which includes electronic word-of-mouth (e-WOM) and helping behavior, also contributes positively to users' sustainable intention. The implications of this study provide insights for companies to enhance digital banking strategies to maintain user loyalty for Wondr.

Keyword: E-Customer Relationship Management, E-Service Quality, Online Value Co-Creation, Continuance Use Intention.

INTRODUCTION

Banks in Indonesia continue to strengthen their digital services by introducing new features. This effort is not only aimed at enhancing customer experience in using banking services but also at attracting and acquiring new users. So, which bank has the highest number of downloads and the best rating on the Play Store (Android) and App Store (iOS)?

The rapid advancement of digital technology has driven the banking sector to continuously innovate in providing digital-based services to customers. PT Bank Negara Indonesia (Persero) Tbk. (BBNI), as one of the major banks in Indonesia, launched its latest super app, **Wondr**, on July 5, 2024, replacing the previous BNI Mobile Banking application. This initiative is part of BNI's efforts to strengthen its position in the increasingly competitive digital banking industry.

In a short period, Wondr has achieved over 2 million downloads, reflecting users' enthusiasm and positive reception (Detikfinance, 2024). Additionally, the app has successfully

driven a **200% increase in transaction volume** compared to the previous application, indicating higher user interaction with the platform (Berita Bisnis.com, 2024).

Table 1. Number of Downloads and App Ratings as of October 2024

Application	Number of Downloads	Play Store Rating	App Store Rating
Bri Mo	50 Juta+	4.7	4.7
BCA Mobile	50 Juta+	3.9	3.3
BNI Mobile Banking	10 Juta+	4.5	4.7
Livin By Mandiri	10 Juta+	4.0	3.1
BTN Mobile	1 Juta+	4.0	4.2
Ollin By Nagari	100rb	3.5	3.6
BSI Mobile	10 Juta+	3.6	4.1
Wondr By BNI	1 Juta+	3.9	4.6

Source: Play Store and App Store, Processed.

The variable Continuance Intention, or the intention to continue using the application, is relevant for research in this context, as it is crucial for companies to understand the factors influencing users' decisions to sustain their use of Wondr over time.

Mobile banking service quality has a significant impact on continuance intention in mobile banking usage, emphasizing the importance of service quality in retaining mobile banking users in the future. Mobile banking service providers need to enhance service quality by focusing on efficiency, fulfillment, system availability, and privacy to improve user satisfaction and maintain their sustained intention to use the service (Pokhrel & K.C, 2024).

In the modern business world, particularly in the banking sector, information technology plays a crucial role in improving operational efficiency and enhancing customer satisfaction. Electronic Customer Relationship Management (ECRM) has become one of the key strategies adopted by banks to increase customer loyalty and retention. ECRM enables better customer data management, improved interaction quality, and adaptation to dynamic customer needs.

According to Rosalina & Nurhadiyan (2018), Electronic Customer Relationship Management is a system that automates customer service in aspects of sales, marketing, and products or services related to the company and its customers (Al-Dmour et al., 2019). Research has shown that ECRM success factors, such as process compatibility, customer information quality, and system support, have a positive impact on customer satisfaction, customer trust, and customer retention. These three aspects directly influence both financial and non-financial performance of the company (Al-Dmour et al., 2019).

Online value co-creation is an increasingly important concept in the digital environment, where customers actively contribute to the value created by a brand through participation in online-based activities. Two key indicators in this context are eWOM (electronic word-of-mouth) and helping behavior.

Studies indicate that positive eWOM content can enhance customer satisfaction and trust, which act as mediators in strengthening continuance intention (Seridaran et al., 2024). Customers are more likely to trust opinions from other customers rather than traditional advertisements, thereby increasing their intention to continue using a service or application.

Helping behavior, which involves customers assisting others through support or advice on online platforms, fosters stronger relationships among users. This contributes to a more positive experience and greater engagement, which directly influences customers' sustained

usage intention. Additionally, helping behavior strengthens customer trust in the community or brand.

This study will analyze the influence of E-CRM, E-SERVQUAL, and Online Value Co-Creation on continuance use intention among Wondr users. The research is expected to provide insights into the migration process of digital banking services, while also serving as a reference for companies and financial institutions in developing their digital transformation strategies.

Hypothesis Development

Based on the reviewed literature, the following hypotheses were developed:

1. **H1**: E-Customer Relationship Management has a **positive and significant influence** on **continuance use intention**.
2. **H2**: E-Service Quality has a **positive and significant influence** on **continuance use intention**.
3. **H3**: Online Value Co-Creation has a **positive and significant influence** on **continuance use intention**.
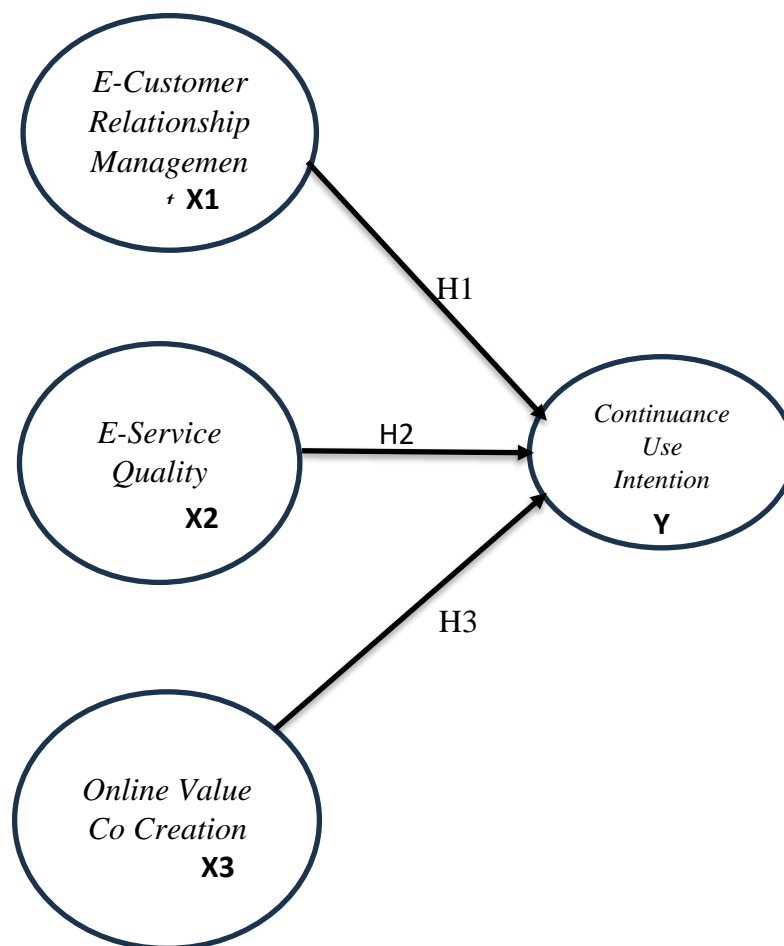

Figure 1. Research Framework

METHOD

This study employs a quantitative research method using a descriptive approach (Sugiyono, 2018). According to Sugiyono (2018), quantitative research, rooted in positivist philosophy, explores and analyzes relationships between variables within a specific population using a representative sample. Data will be collected through structured instruments, and statistical analysis will be conducted to test the hypotheses. This approach aims to empirically test the relationships between variables, providing insights into their interactions.

The descriptive method is used to analyze and interpret the collected information without manipulating variables. Meanwhile, the quantitative approach is applied to examine the causal relationships between E-Customer Relationship Management (E-CRM), E-Service Quality (E-SERVQUAL), Online Value Co-Creation (OVCA), and Continuance Use Intention using statistical analysis. This study adopts the Structural Equation Modeling - Partial Least Squares (SEM-PLS) approach, which is used to analyze the relationships between variables.

Data Type, Sources, and Data Collection Techniques

If the population size ranges from >75,000 to 1 million, the required sample size (N) is 382 respondents. Therefore, the sample for this study is determined using the Proportional Random Sampling method.

RESULTS AND DISCUSSION

Measurement (Outer) Model Evaluation

The evaluation of the Measurement Model or Outer Model is used to assess the relationship between latent variables and their indicators. In other words, this measurement model defines how each indicator is related to its latent variable (Hair et al., 2022). The assessment of the measurement model is conducted by testing validity and reliability.

1. Validity testing includes:
- Convergent Validity (measured using loading factor and average variance extracted (AVE)).
- Discriminant Validity (evaluated using the Fornell-Larcker criterion and cross-loading).
2. Reliability testing includes:
- Composite Reliability
- Cronbach's Alpha

The results of the conducted evaluation are as follows:

Table 2. OL, CR, CA dan AVE

Variable	Construct	Indicator	OL	CA	CR	AVE
E- Customer Relationship Management	Customer Information Quality	The Wondr application provides useful and relevant information for me	0.972	0.954	0.954	0.915
		The information helps me understand the available services	0.940			
		Customer data in the Wondr application is well-managed and accurate	0.958			
	Process Fit	The Wondr application supports personalized services according to my needs	0.830	0.785	0.790	0.669
		Additional services such as customer assistance and support are easily	0.818			

Variable	Construct	Indicator	OL	CA	CR	AVE
		accessible through the application				
		The transaction process through the Wondr application runs smoothly and efficiently	0.860			
	System Support	The Wondr application supports all service features with good connectivity	0.993			
		The Wondr application provides support that helps me use banking services.	0.994	0.990	0.990	0.981
		The network system of the Wondr application is stable and rarely experiences disruptions	0.985			
E-Service Quality		The Wondr by BNI application makes it easy for me to find what I need.	0.967			
		The Wondr by BNI application allows me to access services from anywhere	0.936			
		The Wondr by BNI application enables me to complete transactions quickly	0.956			
	Efficiency	The information in the Wondr by BNI application is well-organized	0.968	0.986	0.986	0.911
		Pages in the Wondr by BNI application load very quickly.	0.954			
		The Wondr by BNI application is easy to use	0.974			
		The Wondr by BNI application allows me to use it immediately	0.953			

Variable	*Construct*	Indicator	OL	CA	CR	*AVE*
		The Wondr by BNI application is well-structured	0.927			
	Reliability	I have high trust in Wondr by BNI services	0.919			
		Wondr by BNI services are reliable and trustworthy	0.975			
		Wondr by BNI always provides accurate service from the first time.	0.964	0.980	0.981	0.926
		I always find Wondr by BNI service channels functioning properly.	0.966			
		I prefer using Wondr by BNI services rather than visiting a branch for my transactions.	0.985			
	Responsiveness and Comunnication	The service responds directly to customer requests.	0.967			
		Assistance is immediately available in case of problems.	0.964	0.964	0.964	0.903
		The service provides answers to customer inquiries.	0.938			
		The bank handles customer complaints about electronic services effectively.	0.932			
	Fulfillment	The Wondr by BNI application completes transactions within the promised time.	0.962			
		The Wondr by BNI application processes transactions within an appropriate timeframe.	0.976	0.987	0.987	0.938
		The Wondr by BNI application completes	0.943			

Variable	*Construct*	Indicator	OL	CA	CR	*AVE*
		transactions accurately.				
		The Wondr by BNI application provides correct banking information	**0.987**			
		The Wondr by BNI application is honest about its services	**0.978**			
		The Wondr by BNI application makes accurate promises regarding banking services	**0.964**			
	Privacy	The Wondr by BNI application protects information about my transactions	**0.973**			
		The Wondr by BNI application does not share my personal information with other applications.	**0.991**	**0.976**	**0.977**	**0.955**
		The Wondr by BNI application protects information about my banking cards.	**0.968**			
Online Value Co Creation	E – Word of Mouth	I introduce Wondr by BNI to other members in the community	**0.913**			
		I recommend Wondr by BNI to other members in the community	**0.918**	**0.887**	**0.888**	**0.816**
		I say positive things about Wondr by BNI to other members in the community	**0.879**			
	Helping Behavior	I am willing to provide guidance or advice to other users on how to use Wondr's features	**0.905**	**0.880**	**0.883**	**0.807**
		I enjoy sharing information about solutions to technical	**0.920**			

Variable	*Construct*	Indicator	OL	CA	CR	*AVE*
		issues in the Wondr application with other users				
		I often help other users resolve their issues related to using the Wondr application.	**0.869**			
Continuance Use Intention		I want to continue using Wondr services rather than discontinuing their use	**0.901**	**0.701**	**0.719**	**0.768**
		My intention is to continue using Wondr services rather than opting for alternative methods	**0.851**			

Sources: SmartPLS 4 (2024)

The outer loading values in this study indicate that each construct indicator has a convergent validity score of more than 0.70. Therefore, it can be concluded that all tested indicators are valid, allowing for the next evaluation step, which is the Average Variance Extracted (AVE) analysis.

Average Variance Extracted (AVE) represents the value associated with each variable. The AVE value is used to measure the proportion of variance captured by the variable compared to the variance caused by measurement errors. The required AVE threshold is greater than 0.5 (Hair et al., 2022).
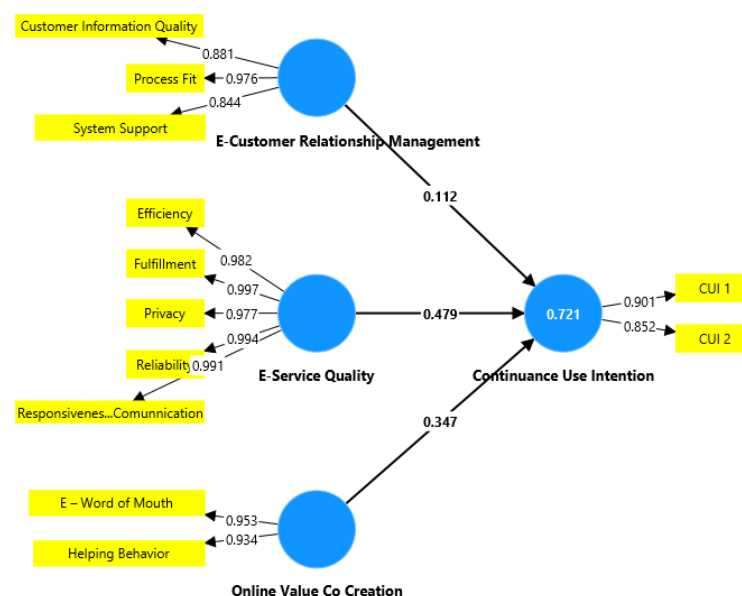

Figure 2. Measurement Model
Source: Processed Data, 2024

Cronbach's Alpha is a type of test used to reinforce the results of composite reliability. In this test, a variable is considered reliable if it has a Cronbach's Alpha value greater than 0.7. The results of the conducted test are as follows.

Composite Reliability is an index used to indicate the extent to which a measurement tool can be trusted or relied upon (reliable). The testing criterion for composite reliability requires a value greater than 0.7 for a construct to be considered highly reliable.

Structural (Inner) Model Evaluation

The factor loading values from the second-order measurement model in Figure 2. Measurement Model indicate that none of the indicators have a value lower than 0.70. This result demonstrates that all indicators exhibit strong convergent validity. Each indicator is valid in measuring its respective latent variable in the study.

Table 3. *Output Fornell-Larcker Criterion*

Variabel	CUI	ECRM	ESQL	OVCA
CUI	**0.877**			
ECRM	0.768	**0.902**		
ESQL	0.798	0.878	**0.988**	
OVCA	0.727	0.676	0.634	**0.943**

Source: *SmartPLS* **4 (2024)**

The Fornell-Larcker Criterion is a test used to examine the correlation values between a variable and itself as well as between a variable and other variables. To meet this testing criterion, the correlation value of a variable with itself must not be lower than its correlation with other variables.

Structural (Inner) Model Evaluation

Evaluation of Structural Model dievaluasi dengan menggunakan R-Square dan Path Coefficient. Evaluation of the Structural Model describes the relationship between latent variables in a model based on the theory underlying the research. This relationship illustrates the connection between independent and dependent variables. The evaluation of the Structural Model is conducted using R-Square and Path Coefficient analysis.

1. **R-Square**

R-Square (R^2), also known as predictive power within a sample, is a measure of the explanatory strength of a model, reflecting the variance explained by each endogenous component.

The decision-making criteria in this study are as follows:
1. R-Square = 0.75 → Substantial
2. R-Square = 0.50 → Moderate
3. R-Square = 0.25 → Weak (Hair et al., 2022)

The results of the inner model measurement using SmartPLS 4 are as follows:

Tabel 4. *Output R-Square*

Model Struktural	R-Square	R-Square Adjusted

Continuance Use Intention	0,724	0,718
(Y)		

Sumber: *SmartPLS* **4 (2024)**

From Table 4, the Adjusted R-Square value is 0.724, meaning that 72.4% of Continuance Use Intention is influenced by E-Customer Relationship Management, E-Service Quality, and Online Value Co-Creation.

In this study, the dependent variable can be explained by the independent variables at a substantial level, indicating that the research findings provide a strong contribution.

Hypothesis Testing / Path Coefficient

In hypothesis testing, the values analyzed are the t-statistic values generated from SmartPLS 4 output, which are then compared to the t-table values. The testing criteria at a 5% significance level ($\alpha = 0.05$) are determined as follows:

a) If t-statistic > t-table (greater than 1.96), the hypothesis is accepted. b. If t-statistic < t-table (less than 1.96), the hypothesis is rejected.

b) Hypotheses are based on probability, and a p-value < 0.05 indicates a significant relationship between the variables being studied (Hair et al., 2022).

Tabel 5. *Output Path Coefficient*

Influence	Coefficient Path	T Statistics	P Values
E- Customer Relationship Management -> Continuance Use Intention	0,100	2,160	0,031
E- Service Quality -> Continuance Use Intention	0,492	7,822	0,000
Online Value Co Creation -> Continuance Use Intention	0,341	7,035	0,000

Source: *SmartPLS* **4 (2024)**

Hypothesis Testing and Findings
Hipotesis 1 (H1)

This study demonstrates that E-Customer Relationship Management (E-CRM) has a positive impact on Continuance Use Intention in the use of the Wondr by BNI application, with a path coefficient of 0.100 and a p-value of 0.031 (<0.05). These findings indicate that the effective implementation of E-CRM, through enhanced customer satisfaction and user retention, contributes to users' intention to continue using the Wondr application.

Based on the respondent characteristics table, the majority of respondents (77.75%) belong to Generation Y and Z, who are highly familiar with digital technology and value personalized, fast, and transparent services from E-CRM. When E-CRM meets these expectations, it enhances satisfaction, trust, and convenience, which positively and significantly influences Continuance Use Intention.

Generation Y and Z are highly engaged with technology and digital services. They tend to be more responsive to E-CRM features such as service personalization, quick response, and seamless digital experiences. When E-CRM successfully fulfills these expectations, they are more likely to continue using the service.

Younger generations, especially Generation Z, have high standards for digital services, including user-friendly interfaces, personalized communication, and prompt problem resolution. If E-CRM can meet these expectations, the positive experiences they encounter will reinforce their Continuance Use Intention.

Hipotesis 2 (H2)

E-Service Quality (E-SERVQUAL) has a significant impact on Continuance Use Intention, with a path coefficient of 0.492 and a p-value of 0.000 (<0.05). This supports the finding that high-quality digital services, such as efficiency, reliability, and responsiveness, enhance user satisfaction and strengthen their intention to continue using the Wondr application.

A total of 49.5% of respondents (34.3% + 15.2%) conducted transactions more than three times in the past week. This frequency indicates that high-quality electronic services (E-SERVQUAL)—including ease of access, service speed, and reliability—encourage users to continuously use the service.

Respondents who transacted more than 10 times (15.2%) suggest high satisfaction with electronic service quality, such as easy navigation, accurate information, and responsiveness. These qualities create a consistent user experience, reinforcing their continuance intention.

Meanwhile, 50.5% of respondents transacted only 1–3 times, suggesting they might be new users. A positive first impression of E-SERVQUAL, such as an intuitive interface and efficient processes, can influence their decision to continue using the application. Respondents who conducted more than four transactions (49.5%) demonstrate dependence on a reliable and responsive service. If the application consistently delivers services that meet expectations, it strengthens long-term usage.

Statements such as "The Wondr application allows me to complete transactions quickly" and "The Wondr application is reliable and trustworthy" received high average scores (4.21 - 4.23). This indicates that reliability and efficiency are the primary factors driving users' continuance intention.

Statements related to information security, such as "The Wondr application protects my transaction information" and "The Wondr application does not share my personal information," received average scores of 4.20 - 4.21. Trust in data security fosters a sense of comfort, increasing user loyalty.

Statements such as "The service responds to customer requests immediately" and "Help is available promptly when issues arise" also scored high (4.21). Service responsiveness strengthens the positive relationship between users and the application, increasing their continuance intention.

The positive perception of Wondr's service quality, particularly in terms of speed, reliability, security, and responsiveness, fosters trust and user satisfaction. This significantly contributes to users' intention to continue using the application (Continuance Use Intention).

Hipotesis 3 (H3)

This study confirms that Online Value Co-Creation (OVCA) has a positive impact on Continuance Use Intention (CUI), with a path coefficient of 0.341 and a p-value of 0.000 (<0.05). Users who actively engage in value co-creation activities, such as sharing experiences and providing feedback, tend to exhibit higher engagement with the application, thereby increasing their likelihood of continued use.

The Online Value Co-Creation (OVCA) variable can positively influence Continuance Use Intention (CUI), particularly when associated with features such as reviews, recommendations, and referral programs like "Invite Your Friends" in the Wondr application. The "Invite Your Friends" feature facilitates two-way communication, both between users and the application as well as among users themselves. This interaction enhances the sense of user

engagement, as individuals feel actively involved in the development of the application's community. By sharing QR codes or invitation links, access to the application becomes more seamless for new users. Existing users perceive additional benefits as they are provided with a mechanism to assist others in joining, thereby fostering a collaborative experience.

User-generated reviews and recommendations within the application help potential new users assess risks before joining. Additionally, incentives for inviting friends create a sense of trust in the application's security and utility. When users perceive that the application delivers tangible value with minimal risk, they are more likely to continue using it over the long term.

The "Invite Your Friends" program maintains transparency in reward distribution and registration processes, fostering trust between users and the application. By assisting friends in downloading the application, users feel that they are part of something greater than just an individual transaction. This collaborative engagement strengthens their sense of ownership over the application.

The reward system further motivates users to remain engaged. These incentives foster a sense of appreciation for their participation. Users perceive added value, reinforcing their intention to continue using the application.

CONCLUSION

This study reveals that E-Customer Relationship Management (E-CRM), E-Service Quality (E-SERVQUAL), and Online Value Co-Creation (OVCA) have a significant positive impact on Continuance Use Intention in the use of the Wondr by BNI application. The analysis results, using the Structural Equation Modeling - Partial Least Squares (SEM-PLS) method, indicate that high-quality digital services, an effective customer relationship management system, and user participation in value co-creation contribute to increased user loyalty and engagement with the application.

Electronic Customer Relationship Management (E-CRM) has a positive impact on users' intention to continue using the Wondr application. The key contributing factors are service personalization, customer information quality, and system support, which facilitate seamless interaction between users and the bank.

High digital service quality, including reliability, efficiency, privacy, and responsiveness, plays a crucial role in enhancing users' intention to continue using the application. Users tend to be more loyal when digital services can meet their expectations quickly and securely.

The co-creation concept, or online value co-creation, through Electronic Word of Mouth (e-WOM) and Helping Behavior, contributes to increased user loyalty. Users who actively share their experiences and assist others tend to develop a stronger attachment to the application.

These findings provide valuable insights for management in developing more effective digital banking strategies. Several recommendations that can be implemented include:

1. Enhancing personalization features in E-CRM to create a more interactive and relevant customer experience.
2. Optimizing E-SERVQUAL by ensuring transaction speed, security, and efficiency within the Wondr application.
3. Increasing user participation in value co-creation through community features, loyalty programs, and greater user involvement in service feedback.

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